Technical Data Sheet

ERACLENE®
DB 506 BA

HDPE
High density polyethylene bio attributed

SUSTAINABILITY

The product Eraclene DB 506 BA 'Bio attributed' is a highly sustainable HDPE produced using bionafta from renewable raw materials together with traditional raw materials. In order to attribute the sustainable feedstock component to the final product Versalis applies the Mass Balance approach, a recognized methodology that allows to trace the flow of materials along the value chain and to assign the sustainability characteristic of the raw material to the final product on a documentary basis. Eraclene DB 506 BA provides the same chemical composition and physical-mechanical performance of the traditional grade, in addition is accompanied by a sustainability declaration that certifies the share of bio attributed product. It is a high density polyethylene resin (HDPE), hexene copolymer, obtained by gas phase technology process. The production of Eraclene DB 506 BA allows to contribute to the circular economy, since the bionafta used derives from renewable resources (e.g. vegetable oils). Eraclene DB 506 BA will be bio attributed for 95%. The exact amount of "bio attributed" product will be reported in the sustainability certificate issued upon the delivery of the product.

MAIN PROPERTIES

Resin Properties	Value	Unit	Test method
Melt Flow Rate (190 °C/2.16 kg)	0.23	g/10min	ISO 1133
Melt Flow Rate (190 °C/5 kg)	0.9	g/10min	ISO 1133
Melt Flow Rate (190 °C/21.6 kg)	21.5	g/10min	ISO 1133
Density	0.939	g/cm^3	ISO 1183
Melting Point	127	°C	Metodo interno
Brittleness temperature	<- 60	°C	ASTM D 746
Vicat softening point (1 kg)	119	°C	ISO 306/A

Mechanical Properties *	Value	Unit	Test method
Tensile stress at yield	18	MPa	ISO 527
Tensile stress at break	45	MPa	ISO 527
Tensile strain at yield	-	%	ISO 527
Elongation at break	>800	%	ISO 527
Flexural modulus	690	MPa	ISO 178
Hardness Shore D	58	-	ISO 868 A
Falling weight	-	J	ISO 6603-2
Izod impact strength, notched	-	J/m	ASTM D 256
Environmental Stress Cracking Resistance (ESCR)	>1000	h	ASTM D 1693(B)

(*) Values are referred to compression moulded specimens. Actual properties are typical and may vary depending upon operating conditions.

(**) Film properties are typical of blown film extruded at 1:4.5 blow up ratio; 210°C melt temperature, die gap 1.1 mm and thickness 25 um.

(***) 100% surface-active agent - Condition B.

Manufacturer website: https://www.versalis.eni.com/

ERACLENE® HDPE / High density polyethylene bio attributed **DB 506 BA**

MAIN APPLICATIONS

The main properties of Eraclene DB 506 BA are emphasized when it is used for production of drip irrigation pipe. The balanced molecular weight distribution, density and the low content of gels are successfully combined in order to provide excellent mechanical properties, sealability, melt strenght and drawability at high extrusion rate. can be easily used in blend with LLDPE and LDPE grades to modify the final properties of the drip irrigation pipe accordging to the specific needs.
For outdoor application, it is strongly suggested to add Anti UV. The combined usage of these additives together with Carbon Black can provide outstanding resistance to UV radiation.

PROCESSING NOTES

Eraclene DB 506 BA is readily processable by conventional equipment. It is suggested to be used a mixing screw with a flat or slightly growing temperature profile from 190°C up to 230°C. The best balance of processing and properties of the drip irrigation pipe is obtained with a die gap between 1,5 mm and 2,5 mm.

STORAGE AND HANDLING

Eraclene DB 506 BA is supplied in pellet form. This material may readily be conveyed and bulk fed through equipment designed for conventional pelletized polyethylene resin, provided the equipment is designed to prevent accumulation of the fines and dust particles that are contained in all polyethylene resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used be equipped with filters of adequate size, operated and maintained in such a manner to ensure that no leaks develop and earthed adequately. We further recommend that good housekeeping should be practiced throughout your facility.
The product should be stored in dry conditions at temperatures below 50°C and protected from sunlight. Improper storage can initiate degradation which results in odor generation, color changes and can have negative effects on the physical properties of the product. Before using this product, it is recommended to read and understand the relevant Safety Data Sheet.

AVAILABILITY

Contact the Versalis sales office nearest to you regarding availability and your specific application requirements.

FOOD CONTACT STATUS

Eraclene DB 506 BA complies with the rules and regulations of the European Union, as well as other countries, regarding the use of plastic materials in food contact applications. Certificates of compliance are available upon request.

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IMPORTANT: please consult the relevant safety data sheet for more detailed information. The information and data presented herein are to the best of our knowledge true and accurate but no warranty or guarantee, expressed or implied, is made nor is any liability accepted with respect to the use of such information and data. Versalis is available to provide the guaranteed values for each product on demand

DISCLAIMER: it is the sole responsibility of the end-user to determine the safety, the regulatory compliance as well as the technical suitability of the product for the intended application. The product is not intended for use in medical devices and pharmaceutical applications; Versalis declines all responsibility and cannot be held liable in case of use in the above-mentioned applications.

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